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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,929	09/11/2003	Emmanuel Garnier	Serie 5622	8388

7590

12/13/2004

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EXAMINER

DOERRLER, WILLIAM CHARLES

ART UNIT PAPER NUMBER

3744

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/661,929

Applicant(s)

GARNIER ET AL.

Examiner

William C Doerler

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-47 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 15-17, 21-44, 46 and 47 is/are rejected.
- 7) ☒ Claim(s) 18-20 and 45 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9-11-2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The research disclosure from the IDS was not considered since it cannot be found in the file. The reference will be considered in supplied with the correspondence.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 27,28,44 and 47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 27 claims "at least one pump mounted in parallel". It is unclear how one pump can be mounted in parallel. In line 4 of claim 27, it is unclear whether the "common outlet header" is the outlet of the air distillation unit or the pump. In claim 44, it is unclear how one compressor is mounted in parallel. The same is true of the precooler. Also in claim 44, it appears in lines 4 and 5 that both the inlets and the outlets are connected to the same header, essentially bypassing the precooler. In claim 47, it is unclear how one pump is mounted in parallel. Also in claim 47, it is unclear what the "additional common outlet header" is an outlet for. It seems to lead to "the heat

exchanger", which lacks proper antecedent basis, but it is unclear what the fluid is coming out of.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15,26,35 and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Wong et al.

Wong et al shows a cryogenic rectification system with one heat exchanger 6, multiple air distillation units (A,B,C) which produce oxygen, nitrogen and argon (liquid in line 41 of column 4), an air treatment unit 4 and a common header which connects the heat exchanger to the multiple distillation units.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 17,31,36,39,40,41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al in view of either Frankl or Borchardt et al.

Wong et al discloses applicants' basic inventive concept, a distillation system with a header connecting a heat exchanger to multiple distillation systems, substantially as claimed with the exception of using multiple components (air precoolers are shown in both references) in parallel. Frankl and Borchardt et al each show this feature to be old in the air distillation art. It would have been obvious to one of ordinary skill in the art at the time of applicants' invention from the teaching of either Borchardt et al or Frankl to modify the distillation system of Wong et al by using multiple precoolers in parallel to allow for regeneration of the precoolers and to closely match the heat in the two flows of the heat exchanger. In regard to claim 42, the capacity and number of the components are seen as matters of obvious design choice for an ordinary practitioner of the art to more closely match desired output with production capabilities as matching desired output with multiples of standardized units is taught by Wong et al.

Claims 16,21,22,32,33,34,37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al in view of either Frankl or Borchardt et al as applied to claims 17,31,36,39 and 40-42 above, and further in view of Voit.

Wong et al, as modified, discloses applicants' basic inventive concept, an air distillation system with multiple components fed in parallel, substantially as claimed with the exception of using a heater. Voit et al shows a heater (unnumbered) in a parallel passageway of line 53 to controllably heat the regeneration gas (nitrogen) used in the absorbers. It would have been obvious to one of ordinary skill in the art at the time of applicants' invention from the teaching of Voit to modify the distillation system of Wong et al by adding a heater in parallel configuration to controllably heat the gas used for regeneration of the absorbers which treat the incoming gas.

Claims 23-25 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al in view of Rathbone '341.

Wong et al disclose applicants' basic inventive concept, an air distillation system with multiple distillation units in parallel to treatment devices, substantially as claimed with the exception of using booster compressors with a parallel connection. Rathbone '341 shows this feature to be old in the air distillation art, with booster compressors 12 and 14 in parallel. It would have been obvious to one of ordinary skill in the art at the time of applicants' invention from the teaching of Rathbone to modify the air distillation system of Wong et al by using booster compressors in parallel configuration to efficiently produce high pressure air for distillation. In regard to claim 25, Official Notice is taken that multi-stage compressors are well known in the art and as such, compressors and booster compressors with a common drive (which constitute a multi-stage compressor) would have been an obvious modification for one of ordinary skill in the art to provide high pressure air.

Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al in view of Buttle.

Wong et al disclose applicants' basic inventive concept, an air distillation system with multiple distillation units in parallel to treatment devices, substantially as claimed with the exception of using multiple turbines with a parallel connection. Buttle shows this feature to be old in the air distillation art (see lines 9-11 of column 5). It would have been obvious to one of ordinary skill in the art at the time of applicants' invention from the teaching of Buttle to modify the air distillation system of Wong et al by using turbines in parallel configuration to efficiently produce low pressure gas and refrigeration for the separation system.

Allowable Subject Matter

Claims 18-20 and 45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Goebel et al and Baufre show gas distillation systems with multiple gas treaters in parallel. Bruder et al, Bracque et al and Guillard et al show modular distillation systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C Doerrler whose telephone number is (571) 272-4807. The examiner can normally be reached on Monday-Friday 6:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel can be reached on (571) 272-4808. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William C Doerrler
Primary Examiner
Art Unit 3744

WCD